



## Region 5 Superfund (SF)

You are here: [EPA Home](#) [Region 5](#) [Superfund](#) [NPL fact sheets](#) [Indiana](#) MIDCO I**MIDCO I****EPA ID# IND980615421**

Last Updated: March, 2010

**U.S. EPA REGION 5**

LAKE COUNTY

GARY

Congressional District # 01

**Site Description**

Midco I is located in Lake County, Indiana. The site includes a four-acre area where disposal occurred, plus 4.6 acres of contaminated sediment areas. From 1973 through 1979, this site was used for the storage of waste solvents and other wastes in tanks and in drums. Disposal of wastes in pits also occurred. In December 1976, a fire consumed or damaged an estimated 14,000 drums of wastes. Operations were resumed in October 1977. When the site was abandoned in 1979, thousands of full drums were left onsite, in addition to the fire-damaged drums. There are a number of small businesses located within 1000 feet of the site. Sixteen private wells screened in the affected aquifer were located in the down gradient groundwater flow direction from the site.

**Site Responsibility**

Early investigations and removal actions were federally funded. Subsequent actions, including the Remedial Investigation/Feasibility Study were conducted by private parties under federal and state oversight. Private parties have also reimbursed nearly all federal and state costs.

**Threats and Contaminants**

Following removal of the surficial wastes, the subsurface soils and groundwater were still highly contaminated. Contaminants affecting the groundwater include volatile organic compounds, such as trichloroethylene, tetrachloroethylene, vinyl chloride, benzene, methylene chloride, and toluene (these are liquids that easily vaporize); other organic compounds such as phenol and isophorone; metals such as chromium, lead and nickel; and cyanide. The groundwater is also so highly contaminated with salts that it can not be discharged to surface water, even after treatment. Sediments and soils are contaminated with similar contaminants as well as PCBs, polyaromatic hydrocarbons, and chlordane, which is a pesticide. Volatile organic compounds, chromium, lead, cadmium, and cyanide were detected in surface waters northeast of the site. Contaminants in the soil are leaching into the groundwater. If no action was taken, direct contact with or accidental ingestion of contaminated groundwater, surface water, sediments, or soil would be a threat. Until the site is cleaned up, these risks are being controlled by a site fence, on-site staff, and a temporary soil cover. If no action was taken, contaminated groundwater would migrate offsite and may affect downgradient drinking water wells, but the pump-and-treat system is preventing further off-site movement of the contamination. Until the final remedy is in place, contaminated sediments may adversely affect wildlife and plants in or around the wetlands, but these sediments are not migrating off-site and the wetlands are of low value. There would be human health risks if the site or groundwater was developed in the future. This risk is being controlled through notices in the deeds that restrict usage of the site.

**Cleanup Progress**

From 1981 to 1982, the United States Environmental Protection Agency (U.S. EPA) enclosed the site with a fence, removed and disposed of wastes onsite and the top one-foot of highly

contaminated soil. This action included removal of the approximately the following quantities: 14,000 burned and crushed drums; 7,400 full drums; and 10,000 gallons of liquid and 8,000 gallons of sludge containing sulfides from underground tanks. Another 840 drums were removed by a private party. In 1985, a group of private parties entered an agreement with U.S. EPA to conduct sampling to locate the extent of soil and groundwater contamination, and to evaluate cleanup methods. The sampling and evaluation was conducted from 1985 to 1989.

In a 1989 decision document as amended in 1992, U.S. EPA decided that the cleanup should include:

- cleanup of the groundwater by pump and treat
- treatment and deep well injection of the treated groundwater into a saline aquifer
- treatment of an estimated 7,800 cubic yards of highly contaminated soil and sediments by soil vapor extraction and solidification/stabilization
- constructing a cap over the site.

In January 1992, private parties entered into an agreement with U.S. EPA to implement the cleanup, and formed the Midco Remedial Corporation (MRC). Construction started in 1993 with the consolidation of contaminated sediments onto the site and construction of the deep well. During 1994 to 1996, the MRC constructed and tested the pump-and-treat system, and in January 1997 initiated continuous operation. In December 1999, U.S. EPA determined that the pump-and-treat system was undersized. The MRC designed and constructed an expanded system, which started operating in January 2002.

During 1993 to 1997, EPA and the MRC cooperated in conducting treatability studies for soil treatment by solidification/stabilization. Although soil vapor extraction is well documented to be effective in removing VOCs from the soil, the treatability studies demonstrated that it would be difficult for solidification/stabilization to treat all of the other contaminants of concern. For that reason during 2000 to 2001, EPA allowed the MRC to test use of injection of chemicals to treat the subsurface soils, but the test results were not promising. In September 2004, EPA formally approved changes to the soil treatment requirements, including:

- Increasing soil treatment by soil vapor extraction to 54,200 cubic yards by: adding treatment of soils below the water table by constructing a groundwater barrier wall around the source area; lowering the water table within the source area by 12 feet; and conducting soil vapor extraction throughout the source area.
- Eliminating the requirement for treatment of organic compounds other than volatile organic compounds in the soils;
- reducing soil treatment by solidification/stabilization to 3,560 cubic yards of soil highly contaminated by metals and cyanide; and adding excavation and off-site disposal as an option for addressing these soils.

The MRC constructed the groundwater barrier wall during November and December 2003. During 2004 and 2005, the MRC pumped out water within the barrier wall to lower the water table, and this pumping continued as necessary during the soil vapor extraction treatment. The MRC constructed the soil vapor extraction system from March 2005 through January 2006, and the system started continuous operation in March 2006. To date (March 2010), it is estimated that the SVE system has removed 48,000 pounds of volatile organic compounds. In September 2009, the MRC tested Midco soil gas, which is being used as an indicator for the soil contamination, and found that the SVE system still had not achieved

the required 97% reduction in VOC concentrations; so SVE operations are continuing. In addition, the soil gas measurements indicate that VOCs in soil still present a substantial risk of groundwater contamination, and VOC emission data indicates that indicates that 200 - 300 pounds of VOCs are being removed per month (October - November 2009). Outside of the barrier wall, VOCs are near the groundwater cleanup actions levels, but metal, cyanide and sulfide contamination is significant.

Following completion of the soil vapor extraction, the highly contaminated soil will be excavated (or treated by solidification/stabilization) and the site cover will be installed. U.S. EPA completed five-year reviews in 1999, 2004 and 2009. In the 2009 five-year review, U.S. EPA determined that additional work was needed on institutional controls, and that adjustments to groundwater and soil cleanup action levels may be needed before site closure.

### **Success Story**

U.S. EPA's removal action was very successful in removing the immediate hazards from the site, so that the soil and groundwater contamination could be addressed on a prolonged schedule without causing significant health risks.

The soil vapor extraction within the groundwater barrier wall appears to be successfully removing volatile organic compounds from the soil although it is taking longer than expected.

### **Community Involvement**

During the last ten years or so, this site has not attracted much attention from the public.

### **Congressional Interest**

During the last ten years to so, there have been no specific congressional inquiries.

### **Property Reuse**

Usage of the site property is restricted through deed notices. In September 2007, the city of Gary passed an ordinance prohibiting installation of new wells for potable water usage, and use of the unconsolidated aquifer for potable water usage. The City of Gary has included the Midco I property within a redevelopment zone for the Gary-Chicago Airport. It is possible that the site cover can be constructed so that the property can be used for parking or some other commercial or industrial use.

### **Contacts**

Remedial Project Manager, U.S. EPA  
Richard Boice (boice.richard@epa.gov)  
(312) 886-4740

Community Involvement Coordinator, U.S. EPA  
Janet Pope  
(312) 353-0628

### **Aliases**

MIDCO I SITE  
MIDWEST SOLVENTS REC

### **Site Profile Information**

This profile provides you with information on EPA's cleanup progress at this Superfund site.